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REPORT NO. 5

U.S. DEPARTMENT OF AGRICULTURE

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## Cotton Fiber and Processing Test Results



Agricultural Marketing Service  
U.S. DEPARTMENT OF AGRICULTURE  
Memphis, Tenn. 38122 November 5, 1976

## COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1976

### Discussion of Test Results

The average fiber length of short staple cotton tested from the Southwest through October 29 is shorter and less uniform than a year ago, according to the Cotton Division, Agricultural Marketing Service, USDA. The average fiber strength is weaker on both zero and 1/8" gage tests. Picker and card waste is higher than a year ago. Yarns spun from these samples show considerably weaker yarn strength and lower appearance grades. Yarn imperfections are higher. The average spinning potential yarn number is lower.

The U. S. average length of medium staple samples is slightly shorter than a year ago at this time. Micronaire and fiber strength are about the same as a year ago. Picker and card waste is higher than last year. Yarns spun from these samples are stronger with higher appearance grades and fewer imperfections.

Southeastern area medium staple samples are slightly longer, more uniform, and coarser than a year ago. Cottons are stronger. Shirley Analyzer nonlint content is slightly higher. Picker and card waste is considerably higher than last season. Yarns spun from these samples show stronger skein strength and higher appearance grades. Yarn imperfections are fewer. The average spinning potential yarn number is higher.

Medium staple samples tested from the South Central area show fibers to be slightly shorter and less uniform than a year ago. Cottons are finer and stronger. Picker and card waste is higher than last year. Yarns spun from these samples show stronger yarn strength and fewer imperfections.

Medium staple samples tested from the Southwest show slightly shorter fibers than a year ago. Picker and card waste is considerably higher. Yarns spun from these samples are slightly stronger with fewer imperfections.

Medium staple samples tested from the West to date show longer, slightly less uniform fibers than a year ago. Samples are weaker at zero gage strength tests. Both Shirley Analyzer nonlint content and picker and card waste are higher than a year ago. Yarns spun from these samples show higher appearance grades and fewer imperfections. The average spinning potential yarn number is higher.

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These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.<sup>1/</sup> These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

<sup>1/</sup> Summary of Cotton Fiber and Processing Test Results, Crop of 1975, USDA, AMS, Cotton Division, May 1976.

Table I. -Cotton:

Averages of fiber and processing tests from selected gin points in the United States through October 29, 1976

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph		Mike fine- ness		Fiber strength		S A nonlint gage	P & C waste	Yarn quality		Spin. Potent.	
		2.5% span	50/2.5 unif.	Zero gage	1/8" gage	Rdg.	Mpsi			Skein str.	Appear- ance		
No.													
Short Staple:													
Southwest	12	1.01	46	4.4	89	22	3.0	5.7	104	116	11	46	
	7	.98	44	4.4	85	20	2.9	6.9	84	111	13	36	
Medium Staple:													
Southeast	3	1.09	45	4.3	81	22	3.4	5.5	100	100	25	56	
	4	1.10	46	4.8	88	24	3.6	6.7	112	105	23	60	
South Central	32	1.10	46	4.6	86	23	3.0	5.1	101	100	20	57	
	15	1.09	45	4.3	89	24	2.9	5.7	112	101	18	55	
Southwest	21	1.08	45	4.3	81	22	2.9	4.7	103	99	22	58	
	23	1.07	45	4.2	81	22	3.0	6.1	105	99	20	58	
West	5	1.12	46	4.0	95	28	2.0	4.1	129	84	31	73	
	2	1.14	45	4.1	90	28	2.8	5.2	129	90	20	76	
U.S. Average	61	1.10	45	4.4	85	23	2.9	4.9	104	98	22	59	
	44	1.08	45	4.3	85	23	3.0	5.9	109	100	19	58	
Significant dif- ference 2/													
		0.02	2	0.2	2	1	0.5	0.5	4 (22s)	5	2	3	

1/ Based on a limited number of samples of modal quality  
2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through October 29, 1976  
 1/ (continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results					
		Span	Length	Strength		SA Non- lint	P&C Waste	Comber		Yarn Quality		Imprfctns carded	SPY
				Unif	Mike Zero			carded	combed	combed	carded		
No.		No.	In.	Pct.	Rdg.	Mpsi G/tx	Pct.	Pct.	Pct.	Lbs. 22s Carded	Lbs. 22s Carded & Combed	Indx	Indx No. & Combed Yarn
Long Staple:													
Southeast													
1975	1	1.15	45	4.1	83	24	2.9	7.7	15.5	106	125	120	14
1976	2	1.18	47	4.4	91	26	2.3	5.8	14.4	126	146	105	21

Significant  
Difference 2/

0.02 2 0.2 2 1 0.5 0.5 0.5 4(22s) 4(22s)  
 2(50s) 5 5 2 2 3

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976

Production Area, Classification		Fiber Test Results										Processing Test Results - Carded Yarns														
		Digital Fibregraph		Mike		Fiber Strength		Elongation 1/8"		S.A. Non-lint		Color		Strength		Elongation		Appearance Index		Imperfectns						
No	Sample Number	Grade	Staple 2.5% span	Unif	Staple 32s	In	Pct	Rdg	Mpsi	G/tex	Gage	Gage	74	Yel	74	tx	27	tx	74	tx	27	tx	74	tx	27	tx
<b>SOUTHWEST AREA</b>																										
<b>CENTRAL TEXAS</b>																										
<b>TEMPLE</b>																										
1	SLM LT SP	42	32	0.95	47	4.8	89	21	5.8	2.2	3	4	6.7	255	80	5.7	4.8	120	110	21	15	31				
2	SLM LT SP	42	31	0.93	45	4.6	87	20	5.9	3.3	3	4	6.9	262	81	6.0	5.1	130	120	20	12	33				
3	SLM LT SP	42	31	0.97	44	4.6	87	21	5.8	2.6	3	4	6.3	264	78	5.9	4.8	130	100	17	14	31				
<b>WACO</b>																										
1	LP LT SP	52	33	1.06	43	3.8	82	21	6.4	3.8	4	4	6.8	297	97	7.2	5.9	130	110	22	17	49				
<b>LANKART LX571</b>																										
<b>95 PERCENT</b>																										

1/ Reduced from 42 because of bark

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976

Reduced from 41 because of ~~gress~~

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--(Continued)

Production Area, Classification				Fiber Test Results						Processing Test Results - Carded Yarns																	
Sample Number		Digital Fibrograph		Fiber Strength		Elongat'n 1/8"		S.A. Non-Lint		Color Raw Stock		Strength P & C		Elongation 22s or 27 tx		Appearance Index		Imperfect'ns 50s or 22s or 27 tx		Spin. Potential							
No	Grade	Staple span	Unif.	Mike	Zero Gage	Gage	Gage	Non-Lint	Gra	Yel	Waste	27 tx	12 tx	27 tx	12 tx	27 tx	12 tx	27 tx	12 tx	27 tx	12 tx						
32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No	No						
SOUTH CENTRAL AREA--(Continued)																											
MISSISSIPPI--(Continued)																											
HOLLANDALE	41	34	1.09	42	3.5	88	25	7.3	3.4	1	2	5.8	115	37	6.2	4.5	90	70	26	18	63						
1 SLM																											
INDIANOLA	51	33	1.03	45	4.0	98	24	5.1	4.2	3	2	6.9	2/	106	35	5.2	3.8	110	70	15	10	52					
1 LM																											
INDIANOLA	50	34	1.04	47	4.3	93	25	6.0	3.7	2	3	6.7	114	37	5.7	4.3	110	90	14	10	58						
1 LM PLUS																											
NATCHEZ	41	34	1.07	45	4.3	87	23	6.0	2.5	1	2	5.7	105	32	6.0	4.3	100	80	17	12	54						
1 SLM																											
SCOTT	41	34	1.13	45	4.4	91	26	7.4	2.0	1	2	4.1	121	41	6.4	4.7	110	90	11	9	72						
1 SLM																											
MISSOURI																											
SENATH	41	35	1.10	44	3.8	86	24	6.7	2.8	2	3	5.2	119	39	6.5	4.4	90	80	24	17	62						
1 SLM																											
SOUTHWEST AREA																											
CENTRAL TEXAS																											
BATESVILLE	3 SLM LT SP	42	34	1.10	46	4.4	81	22	7.1	2.5	2	3	6.1	101	32	6.1	4.4	100	70	24	16	54					
WEST AREA																											
CALIFORNIA																											
BAKERSFIELD	1 SLM	41	36	1.13	45	4.0	88	27	6.7	3.3	1	3	5.5	125	44	5.7	4.4	90	70	22	19	74					
BAKERSFIELD	1 SLM	41	36	1.14	45	4.2	93	29	6.3	2.4	2	2	4.8	133	48	5.6	4.7	90	80	21	17	77					

2/ Cotton stuck to processing rolls

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1976

## \* Comber Waste and Combed Yarn Data